

Halbur to Carroll
Colfax 1905
Mo. Valley to Fremont
Clarkson 1905
Hooper

Neola, Shelby &
Atlantic.
Luxemburg.





Halbur to Carroll,

Apr. 17-1905

The country between Carroll and Halbur, - like all that to Council Bluff, is rolling, and this part is typical Kansan loess. Left Carroll on the C.W.W. at 6²⁰ AM, and reached Halbur after 7⁰⁰.

I followed the Chicago & Western RR, all the way, and the cuts along this road are numbered in the following notes beginning with No. 1, opposite the depot at Halbur. There are 24 cuts in all.

Cut. 1 Small cut, 8 ft. deep, on N. side, opposite deposit at Halbur.

Yellow loess, without fossils.

Cut 5

Cut. 2 - Long cut on curve, (a) about 4 ft. below the surface there is a band of iron streaks, 2 $\frac{1}{2}$ -3 ft. deep. fine

iron streaks

Cut 2

Halbur

points

Below this band the loess is blue, with iron tubules and small nodules.

A little east (n.) of (a) the upper yellow loess and soil

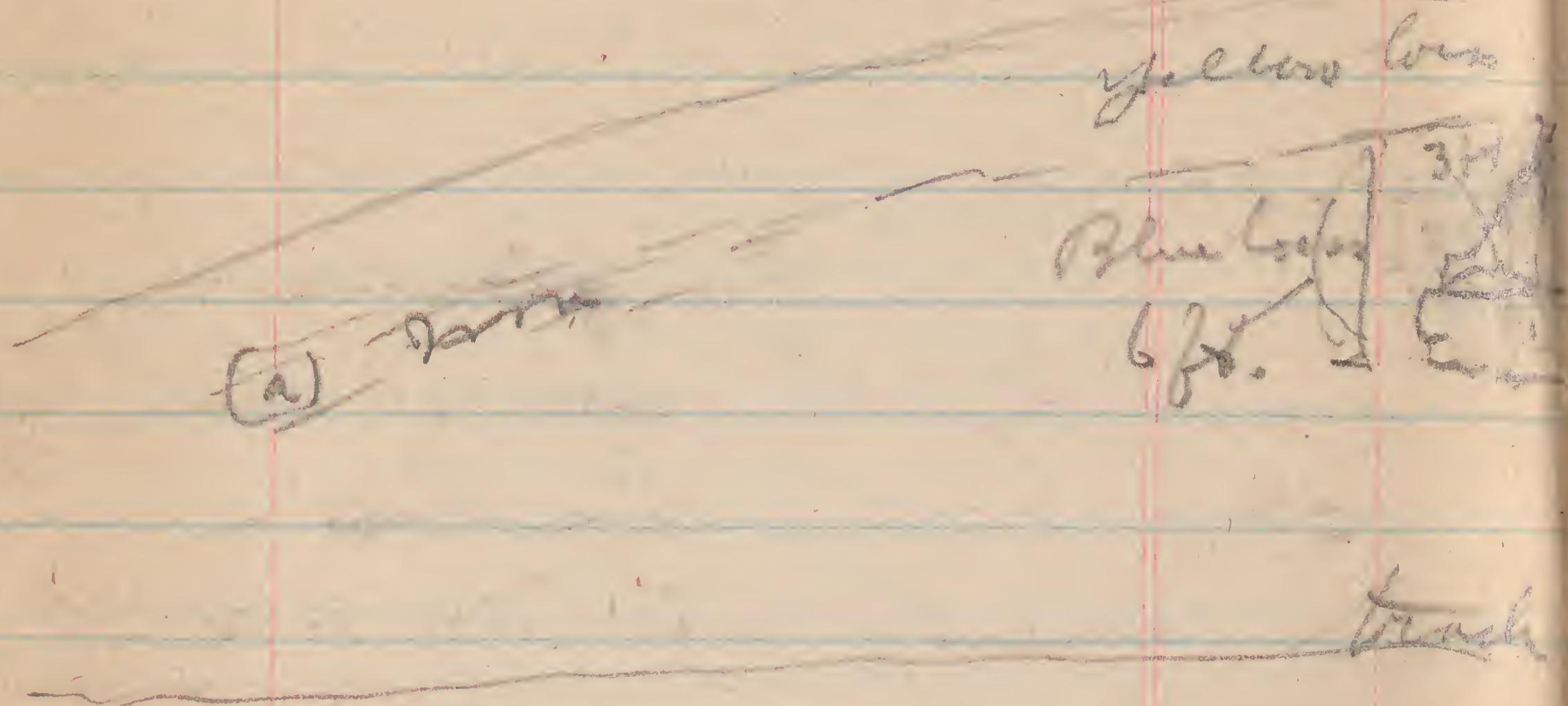
are about 2 ft. deep, then a narrow iron band, and then I explored 6 ft. of blue loess, but did not reach the bottom. The

lowest 2 ft. of this band contains fossils (see 2 boxes). In this blue loess were large iron tubules and a few nodules characteristic of blue loess.

The iron band at (a) all belongs to the blue loess. The "blue" loess throughout is Post-Kansan.

yellow loess } 2-3 ft.
blue loess } 6 ft.
iron } 7 ft.
talus } 10 ft.

Cut. no. 2



The upper part of the yellow loess is more or less columnar. This is Post-Wisconsin.

The lower is rough, but still crumbly. Post-Iowan. Shows lamination when broken, (It does in all the other cuts more or less clearly).

The line between the Post-Wisconsin & Post-Iowan is not sharp, but there

Mr. W. M. Ide

yellow loess

— brown

(b) x x fossils
calcs.

trash.

solid, and does not break into columns, is the post Wisconsin older.

On the E. side, opposite (b), etc. the blue loess appears about the middle of the cut and along almost its whole length. The loess is ferruginous. (See sketch)

Toward the N. end of cut the drift extends half way up or more - 12 ft. from bottom. It looks now.

No. 2 - 5.5 miles - not much

yellow loess

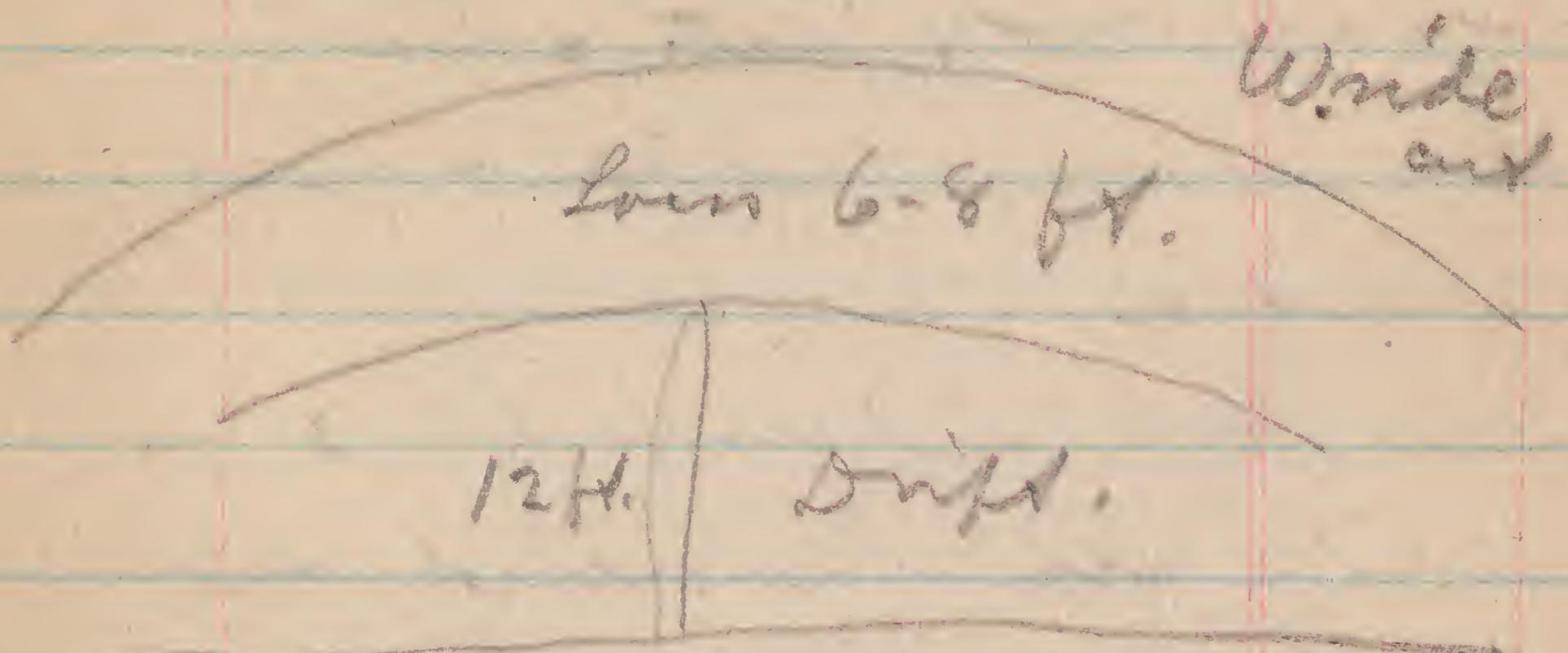
some loess

gritty loess

X-Y is iron loess - this is the blue loess - very sandy, iron & manganese - it is very bleached - white like the gypsum bleached -

earily a few feet above (C-6) is columnar bluish green gypsum (C-6) - this when wet becomes bluish green, like the blue loess

Cut. no. 3. is short & connects with 2



Both sides show much drift, but loess is chiefly on E. side is only 2 or 3 ft. deep.

The drift looks new and has red (iron Q.) pebbles ^{and blocks} in it.

Also many irregular lime nodules. The lime, as in no. 2, between drift and loess is not sharp, and there is no gravel layer.

There is again the same imperfect division into two loess. The lower has bluish streaks, is

more compact, contains fossils and nodules, and does not break away into columns. The upper is yellow & has column cleavage.

The loess in cuts 2 + 3 is nearly all laminated, especially the yellow loess with blue streaks.

Cut no. 4 is small, about 175 paces N. of no. 3. It shows 2 or 3 ft. of drift below, and yellowish (not very blue, only streaked) like ordinary post-Iowan) loess 5-7 ft. The upper part is yellow. The lower loess contains fossils (see box). The ^{lower part of} loess is quite yellow & crumbles but has bluish streaks (post-Iowan).

10

E. side cut 4. yellowish.

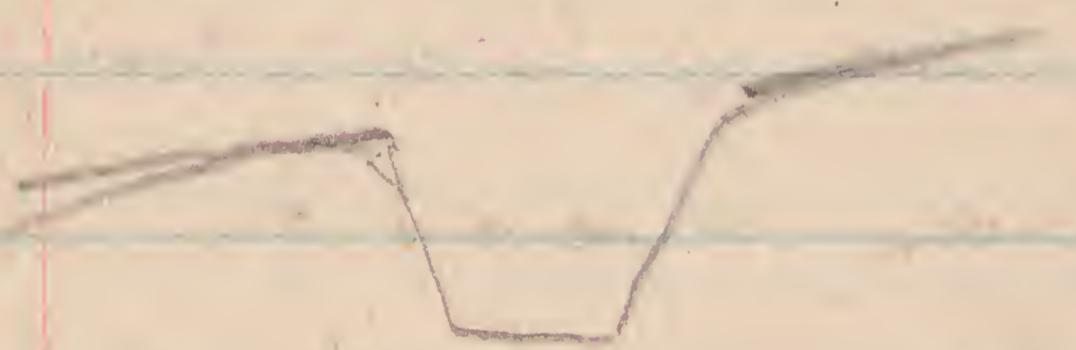
loess

drift iron band

The Helicina occurs in
box 4. come from E. side
above iron band

The drift on W. side, shows
also only at 5. end,

This cut (4) is 160 paces
long and 8 ft. deep on W.
side & 7 on E. side.



Cut 5 is 130 paces N. of
cut 4. It is 100 paces
long, 10 ft. deep on W. side
& 7 ft. on E. side.

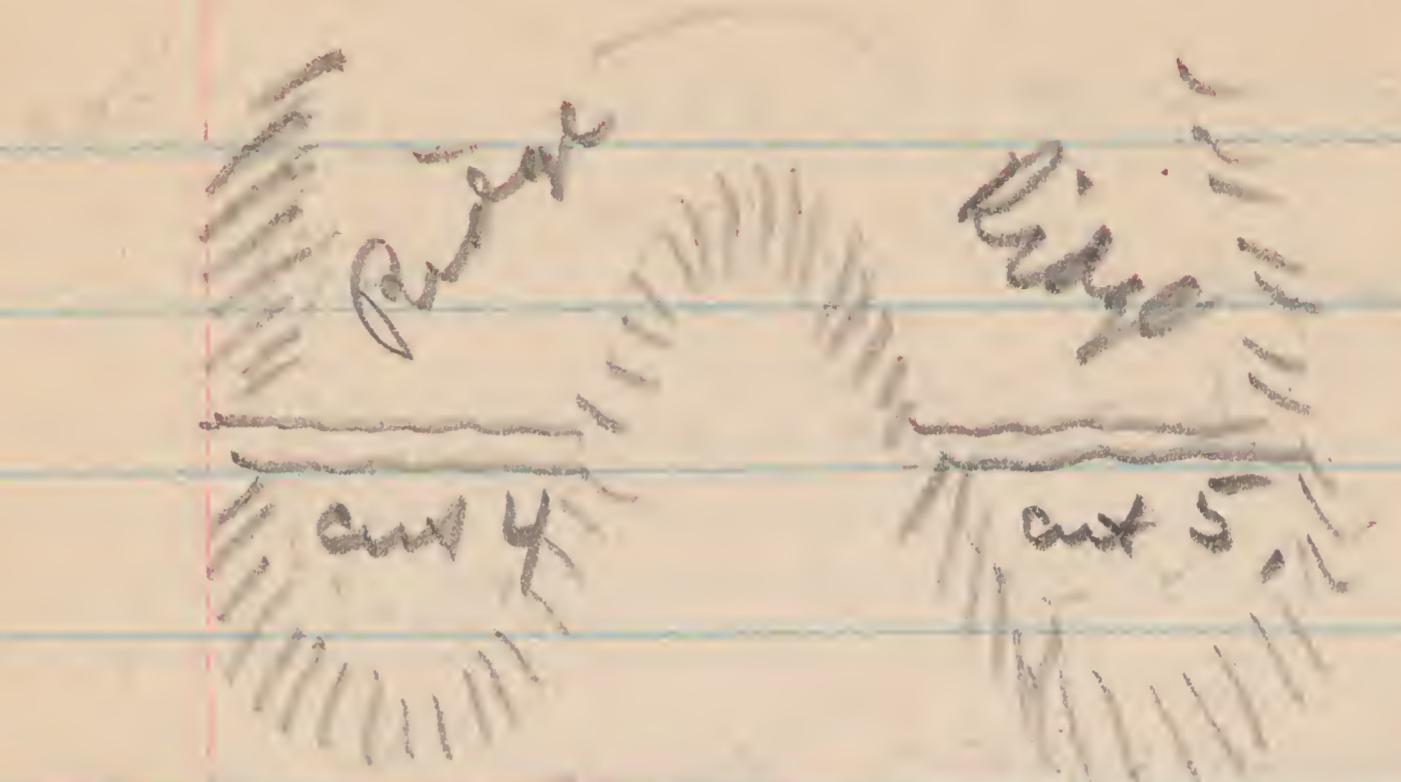
11

Part 4

cut 4

Ridge

cut 5



All the loess is yellowish
and there are more nodules
in the lower, more compact
(post-Dawan?) part.

No drift appears.

There is a fine limy
coating on a considerable
part of the older surface
of the loess, - especially
on the lower, more compact
part.

Going N. of cut 5 to
mile post no. 428 = 440 paces
and to road under RR = 550 ft.

12

From cut 5 to 1 mile
board N. of Halbur.
777 paces.

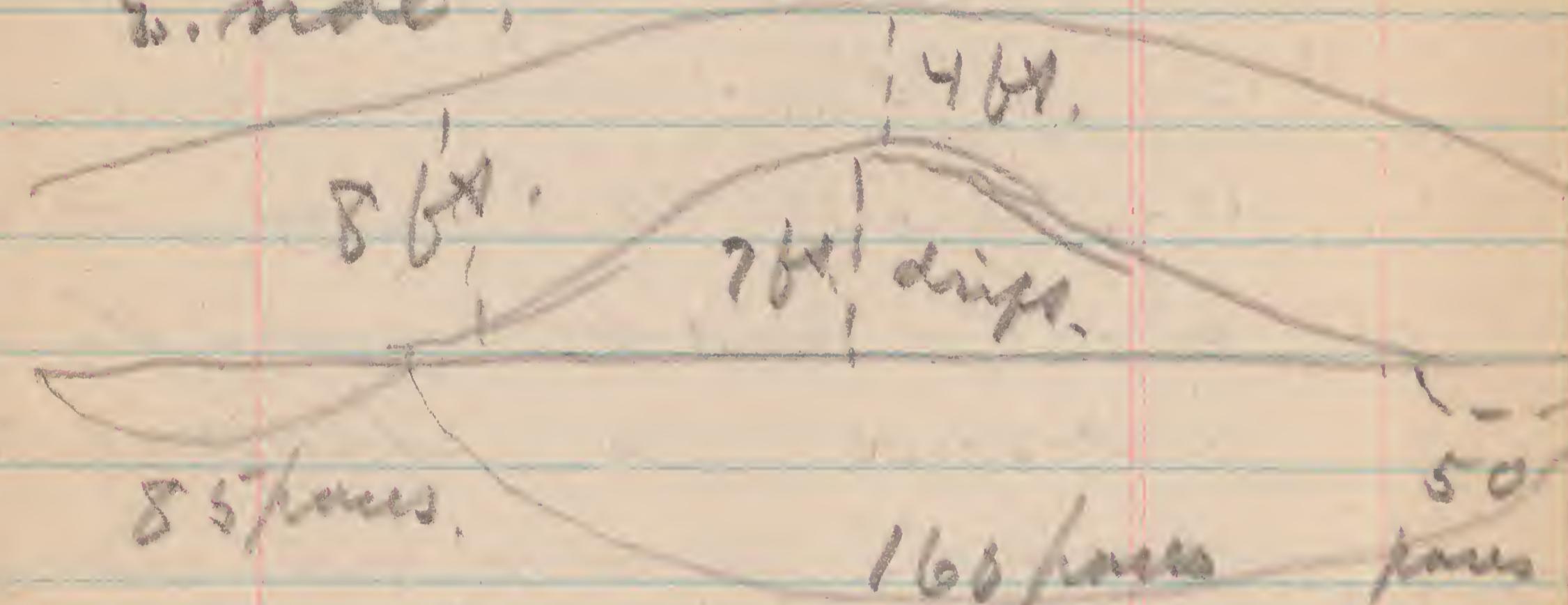
Opposite the mile board,
on E. side, is a low cut
at foot of a longer
slope, which seems
to be about all drift.
It is off the road a little.

Cut 6 Begins 160 paces
N. of 1-mile board. It
is 180 paces long. It
is about 7 ft. at deepest
point. A low, low cut.
It shows drift - the
reddish fresh Kansas
drift of this region -
all along, and in
this there are about

13

5 or 6 ft. of loess. The
lower part is again more
compact, but all is
yellow. The lower part
contains fossils and
nodules.

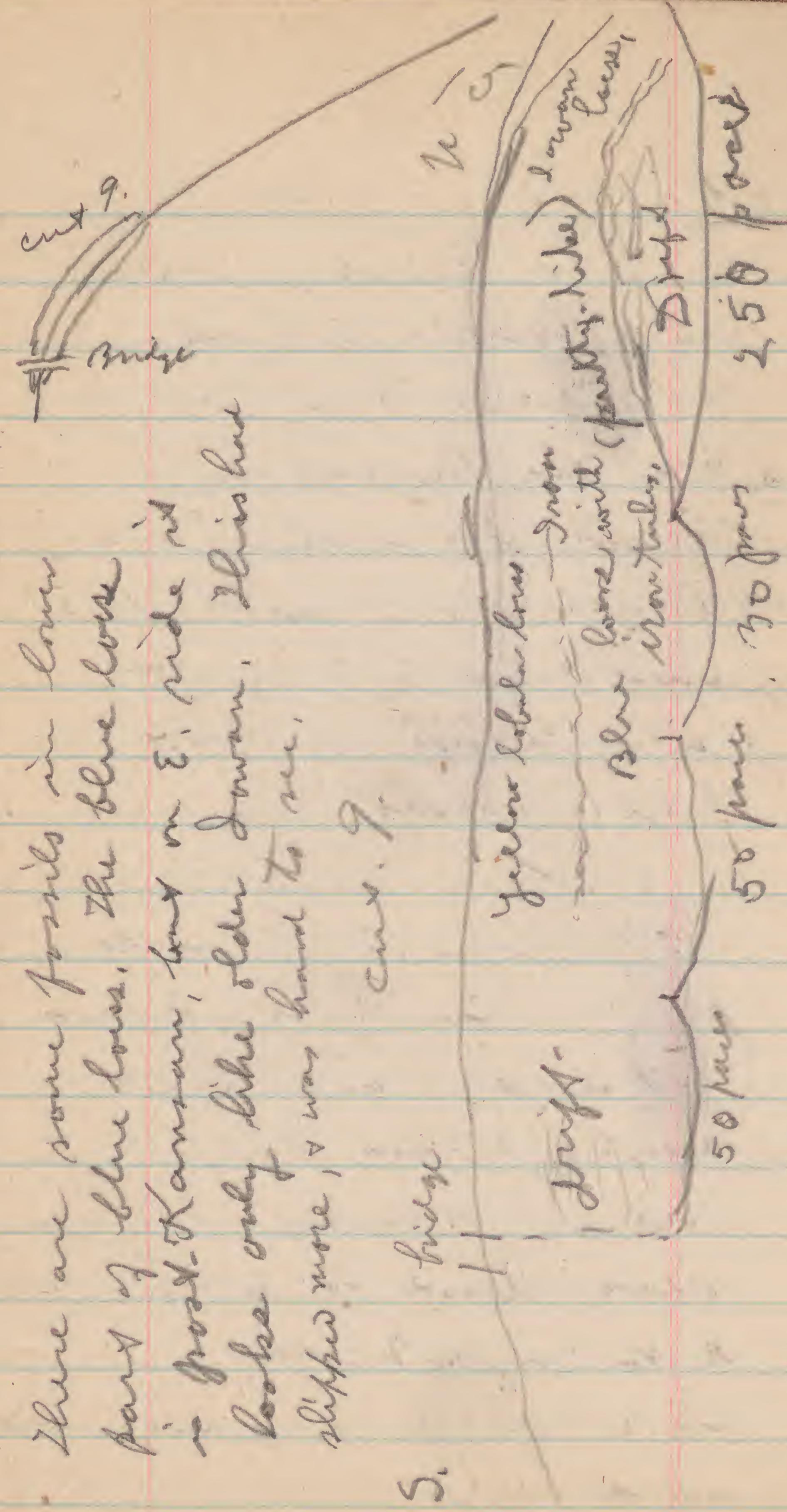
Cut 7 - is 125 paces
from no. 6,
E. side.



Saw only a few fragments of
shells. Loes yellow.
all this drift is quite
yellow, with occasional blocks
of shiny Quartzite.
see photo - "drift".

Cut 8. is 160 paces long
and 6 ft. deep. Shows
only loess, but in
490 paces N. of cut 7.

Cut. 9 - The track is straight from cut 2 (n. end) to beginning of cut 9, 165 paces N. of cut 8, at 427 mile post. (the cut begins about 30 paces S. of this. Overhead bridge 45 paces N. of 427 mile post. Cut 9 is 15 or 16 feet deep, & at about middle shows drift more than $\frac{1}{2}$ way up. - Same yellow drift, to within 4 ft. of top in one place. Lime nodules very abundant in drift.



Cut 10. - This is 150 paces N. of no. 9. It is 160 paces long & about 6 ft. deep.

It shows nothing but yellow loess, and is overgrown.

Cut 11 The track is straight for 820 paces from cut 10, then curves E., & 100 paces further on ~~the next~~ cut 11 begins.

Cut 11

For 100 paces cut 11 is only about 6 ft. deep, then iron band appears 2 or 3 ft. from top, - the rest is obscure.

Fossils abundant in blue loess at 300 paces.

The blue loess seems to be about 15 ft. deep, only a

few boulders appear at very base of cut at 300 paces, - where cut is at least 20 ft. deep.

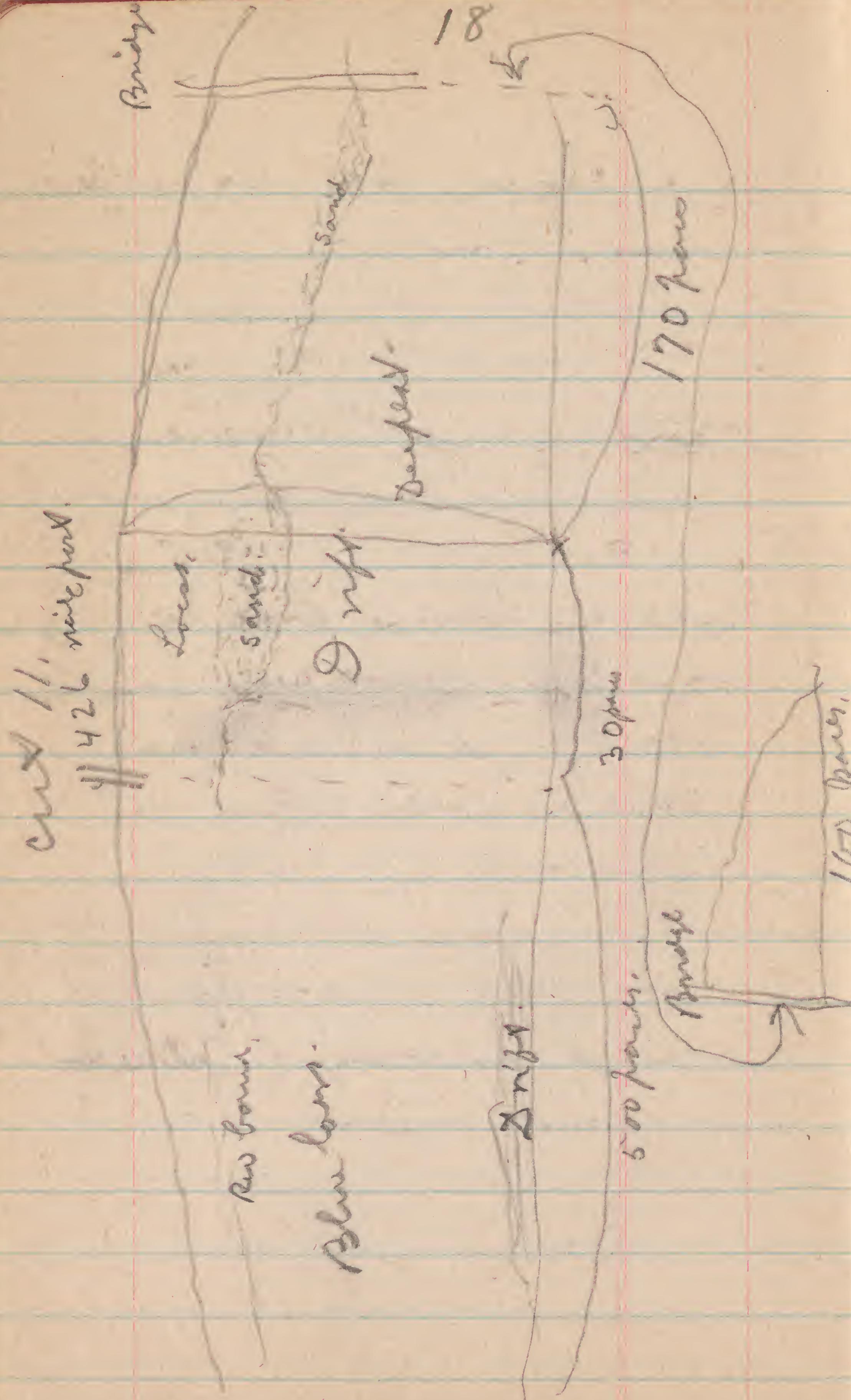
The red iron band is scattered over 4 or 5 feet, - but all this is blue loess - belongs to it. The soil and yellow loess are only about 3 ft. deep here.

The drift toward N. end thickens.

On E. side there are 6-8 feet of yellow columnar loess, a thin red band, and below this the blue loess.

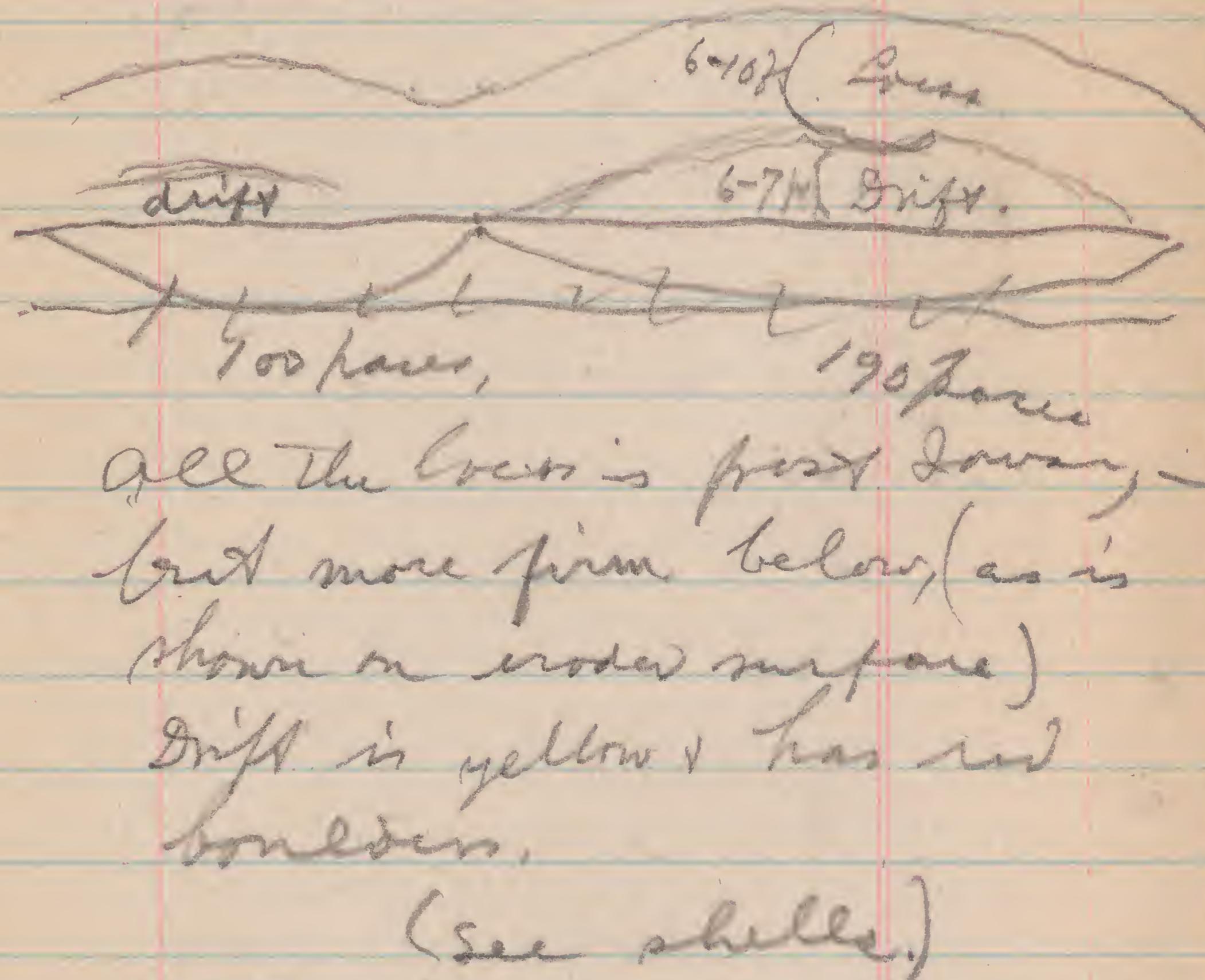
Cut has slipped more or less. It is 250 paces to road under RR. from end of cut 11.

Cut 11. northeast.



19

Cut 12 begins 385 paces from
end of cut 11.



all the loam is very loamy,
but more firm below (as is
shown on eroded surface)

drift is yellow & has red
boulders.

(see shells.)

The lower 3 or 4 feet of
loam is grayer, (streaks)
and has shells.

20

Cut 13 - is 440 paces N. of cut 12. It is 110 paces long, about 7 ft. deep on W. side and 5 ft. on E. side. Shows little but yellow-brown.

Cut 14 is 30 paces N. of cut 13. At 65 paces drift begins
" 140 " 10 runs out.
" 210 " cut ends.
(Look photo D-17)

cut 14, E. side-

yellowish

E. side-

4-6 ft.

gravelly sand, 10-15 ft.

drift, 8 ft.

This is a layer which looks like
older ^{part} brown - 1-3 ft.

21

The sand is more or less interlaminated with loess-like material. Top exposure. The stratification is parallel to the surface. Cut 14 is across a ridge running nearly E. or N. of E.

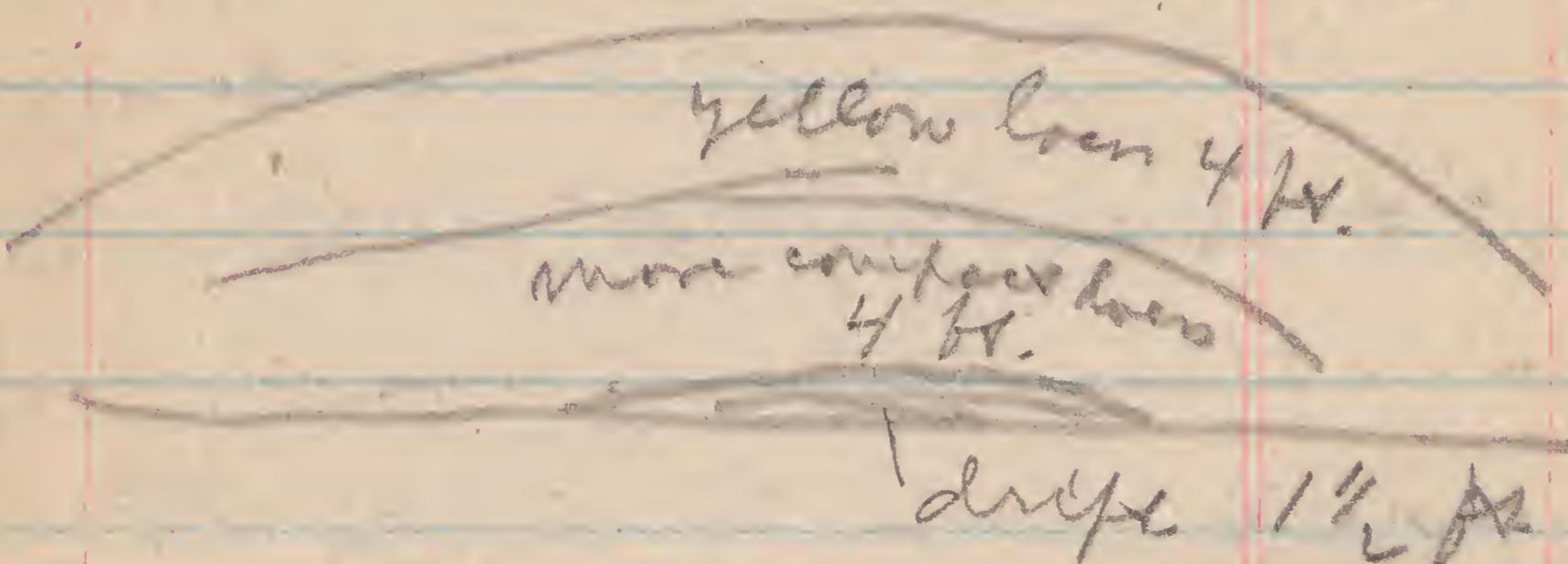
~~Cut 15~~ - at 100 paces N. of cut 14 the track makes a long gradual curve to cut 15, 215 paces N. of cut 14 is mile post 425.

Cut 15 at 295 paces N. of mile post 425 is cut 15, - an insignificant cut 3-5 ft. deep and 45 paces long.

Cut 16 - is 45 paces N. of cut 15.

(Photo looking from cut 16 to cut 14 - plowed field & tracks)

cut 16 - W. side



The lower base is yellow, but compact, & has shells and nodules. Also blue streaks. It is 100 paces long.

Cut 17 is 240 paces N. of cut 16.

It is 240 paces long and about 10 ft. deep.

The greater part is drift, - yellow below, blue above. The

drift shows clear to N. end. Contains big red boulders. A wagon road crosses drift 80 paces N. of cut 17.

Cut 18. is just N. of road on E. side, and is a gravel pit. Like cut 17 in its make-up. 670 paces N. of road is another road, & on N. side this road, 1/2 row

→ Cut 19 begins.

The blue layer in cut 19 shows very large iron tubes (in layers) 4 in. in diam. They end abruptly in a very dark band in top of iron layer. Lime nodules abound in blue layer.

The blue layer is separated for some distance from yellow layer by distinct

2 4

iron land.

Aug 19 - Einheit

now know

5-7 ft. 11 ft.

Blue loom stripes yellow
silver.

$$45 \times 1$$

20 March.

Cut 20 begins 20 fms. N.

Aug 19. It is divisible.

April 20

Yellow loom

87.4.

00000603

卷之三

1870-1871

Drift yellow

55 faces

761

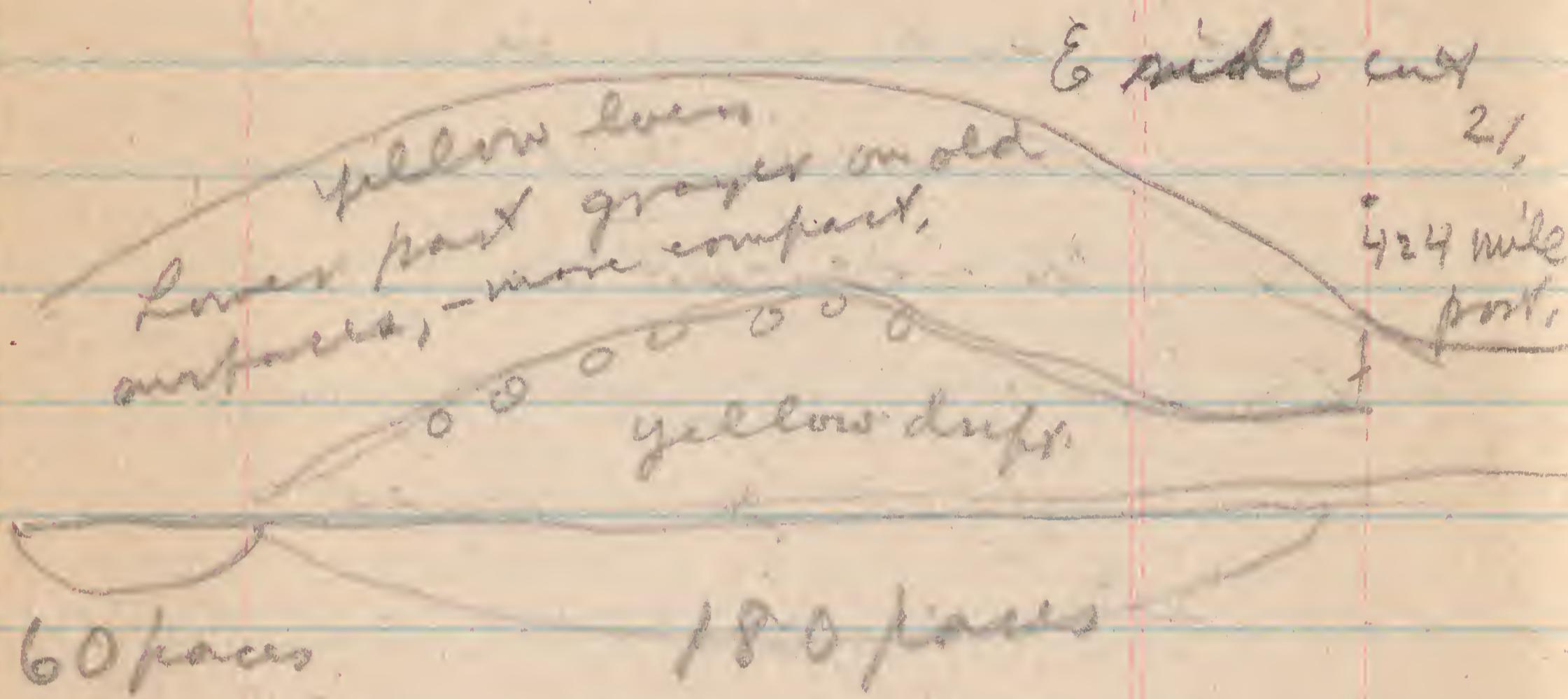
25

Reo
Guy

cut 20 ends just opposite
mile post 424.

Cuts 20 & 21 are really one in
low cut of 5-6 ft. connecting
them.

Cut 21 begins just N. of
mile post 424.



No fossils.

The curve toward E. begins
at S. end of cut 21, &
both 21 & 22 are on the curve.

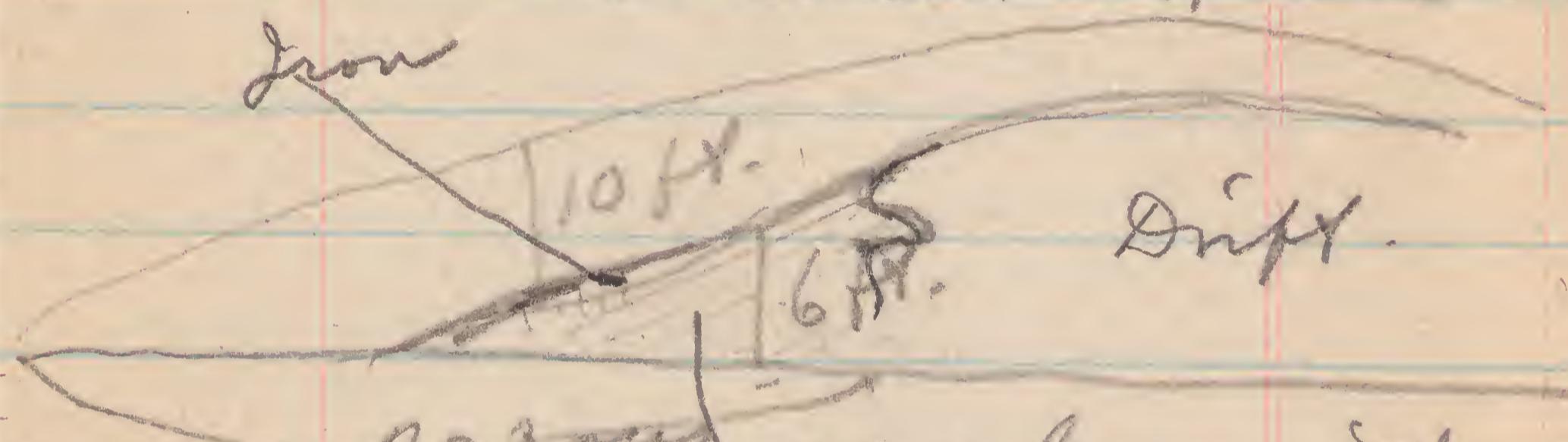
Cut 22 begins 275 paces
beyond cut 21. It is
230 paces long - 20 ft. drift -
mostly drift & a good
deal of it in streaks.

The N. end of cut again

has more loess - yellow.
Cut 23 begins 335 paces

N. of cut 22. It extends
to road which crosses track.

W. side cut 23.



blue loess with very
large iron tubes (5 in.)
and shells.

Above the iron band is
yellow loess.

At 30 paces the following:

yellow loess

blue drift
loess.

Opposite 100 paces from
S. end the cut is 25 or 30

28

feet deep. The top 2-3 ft. is yellow loess, with numerous nodules and a few Sac. avara.

Below this, & separated only by slight streaks of iron, is blue loess, which dries to hardness, & which has large vertical iron-tubes and a few fragments of fossils. Then 1-3 ft. of gumbo-iron.

Then drift - yellow & bluish. The gumbo layer shows near top for about 75 paces, nearly horizontal, irregular. The drift below is like that of other cuts - but this time surely Kansan. Cut 23 is 200 paces long

29

and runs to road.

The blue loess runs out to just a few inches at 150 paces.

It is 795 paces from road to mile post 423.

Along top of cut 23, W. side, the blue loess thins out to about a foot, and there is a very distinct red band below it, about horizontal.

Yellow loess almost none at top, but at N. end about 5 feet.

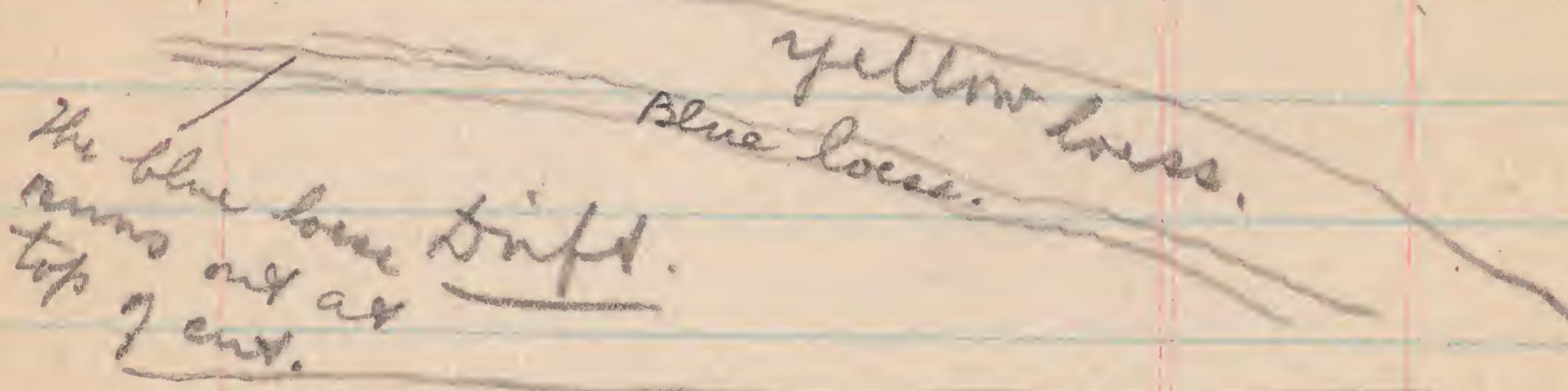
(See next page for continuation.)

Cut 24 is 225 paces N. of 423 mile post.

It is 245 paces long, - mostly drift. It is 20

feet deep, -deeper on W. side.
The RR runs straight
all along here to bridge
over C. & W. RR. where it
curves East into my old
cut just S.W. of Carroll along
C. & W. R.R., which
is cut 25

Cut 23 - (cont.) (see preceding page.)



There are red streaks between
the two loesses. There are very
large iron tubes in lower loess, &
some smaller ones in upper loess.

Cut 25. This is the first
cut S. of Carroll on the
C. & W., and was formerly
() described
as follows:

Apr 17-1905

Walnuts near Carroll, Ia.
Artificial grove S. of
C. N.W. RR. South of
Carroll.

Those on lower ground
(protected by hill) are
15-20 ft. high, those
on hill (exposed) about
5 ft. high.

Diameter of those on hill
only a little smaller
than of those below.
Those on hill are
crispy.

See photos, + slides.

34 York ^{Common}
6 sheets brick & broken

Hooper (con't)

Exposure 5'

(Buyers Brickyard).
Hooper Brick Mfg. Co.

Sandstone
green
gravel

to top

35

Sand
stone

Lens

X

X 20

up'

Lens

Dol

a. b. c. is layer of alternating sand & lens. The sand
enters in all sorts of ways.

The lens has fossils, very possible - in the lenses,
and at X, X, X, a lot of small lenses
The upper part of lens is

less compact or yellow.

The upper thickness is
watermarked.

Ex. 6 is on N' side
of Boy's Trilobite, off.

5.

BR

original till

1000

"Ex. 6"

2 ft. Long with
joints &
nodules

Sand
(see varnish)

Stratified

5 w 6 ft.

Ex. 6 shows iron bands
parallel to the surface.

Line between loam & sand
is sharp & sand shows
more iron just below
loam (comes probably from loam)
The loam is compact, & streaked
blue & yellow in narrow
bands (irregular, hardly
bands) A few

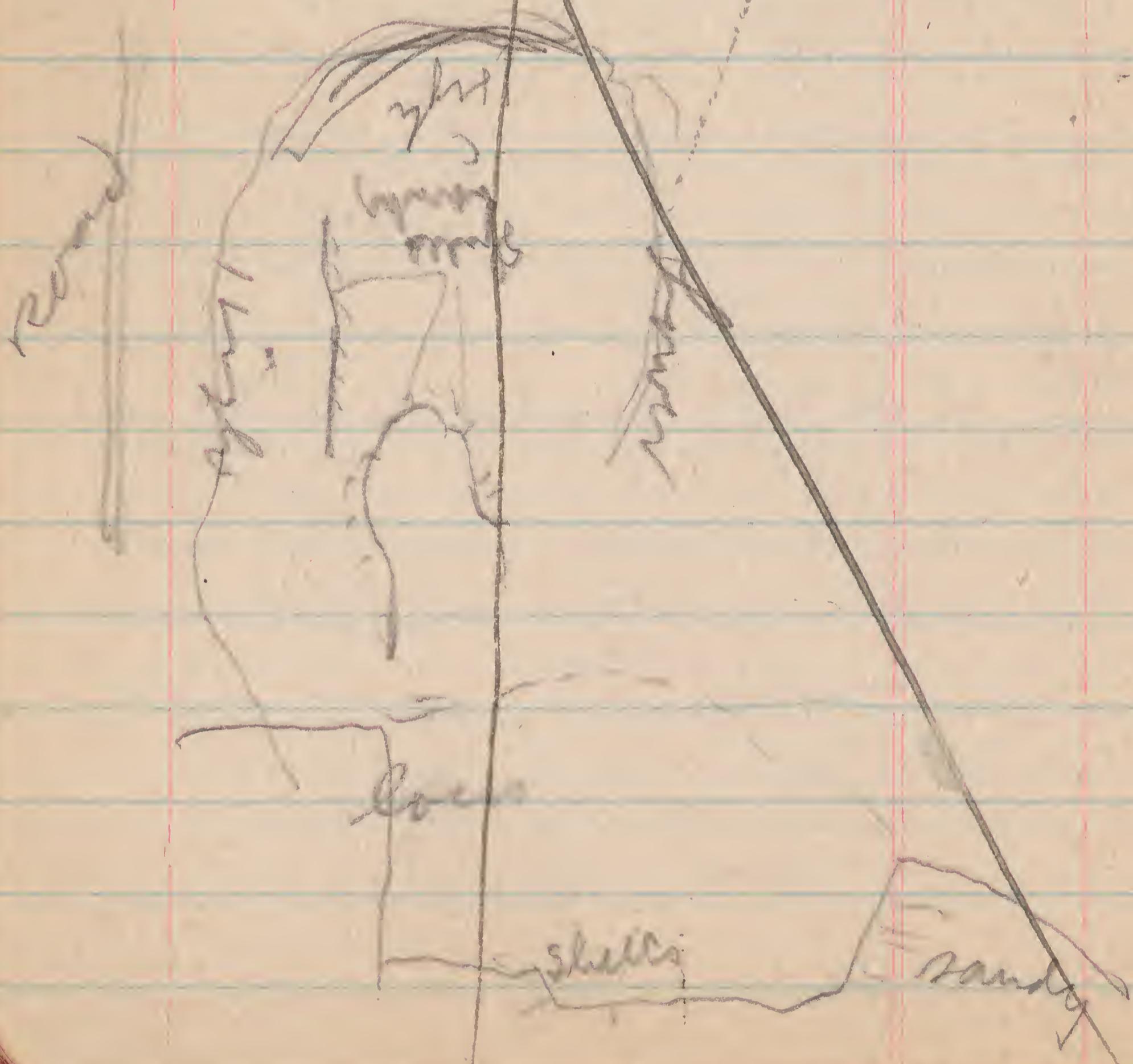
moderately worn in the
loam, but there are
"pockets" with moderately
shells are found

The loam right next to sand
is quite blue, & but not
a frequent band.
See joints,

5/29-1906 ³⁸ Hooper (con)

Expt. 7.

This is a broad flat
exposure - 15 to 20
ft below old
surface. The shells
do not run high
nor are any found
in high exposures
at this end.



39

Toward river this
becomes sandy again
The sand runs only
for a short distance
back along these
bluffs.
The Biggs (you)
man said that
further back they
get gravel & coarse
sand under the
fine sand & clay.
75 ft. down (on hill)

The shells are not
found on surface

W. bluff. Laminaria.

40

41

Colfax, Ia.

Apr. 22-1895

no. 1. 2 blocks S. of W.

of Victoria Hotel.

The base is
no. 1 shells. blue, with
 Howard's iron, but
 upper part seems to be yellow.
 In places an iron band appears.
 Probably two layers, but could
 not well distinguish.

4-6 ft. high.

no. 2. 1½ blocks S. of the Grand
 Hotel (1½ way up the hill)
 Drift shows at base, - also
 iron (Buchanan?).

About 2 ft. of blue loess
 was irregularly exposed, but
 bank slopes back higher.
 Found shells.

no. 3. white loam by
~~the Victoria Hotel~~
 yellow, soft
 Road

This is divided blue loam
 below, with coarse iron
 tubules, but it grades
 up into a yellow loam.

Stucco locally
 abundant, & in one place
 a sort of shell band appears.
 Another smaller band
 appears below, - but there
 are shells even a few feet

through, 19th May 1881.
is more common upland.
The road is on E. side
of Washington St., N. E.
Washington St.
is not

Shells are found up slightly
into Cambrian, and less
common a grit from Camb.
and a grit to Camb.

Fill in S. West
calfs are walking
at 600' on good
grass.

Pen with sand claret
downhill

The post town is yellow with black streaks.

of Kansan ^{was} about 4 ft is exposed near base of hill.

of town there is about 5 or 6 ft, the latter is yellowish above, yellowish upon & does not dry as hard. The saw a thin probably post Wisconsin wind drift. There were no fossils in Kansan.

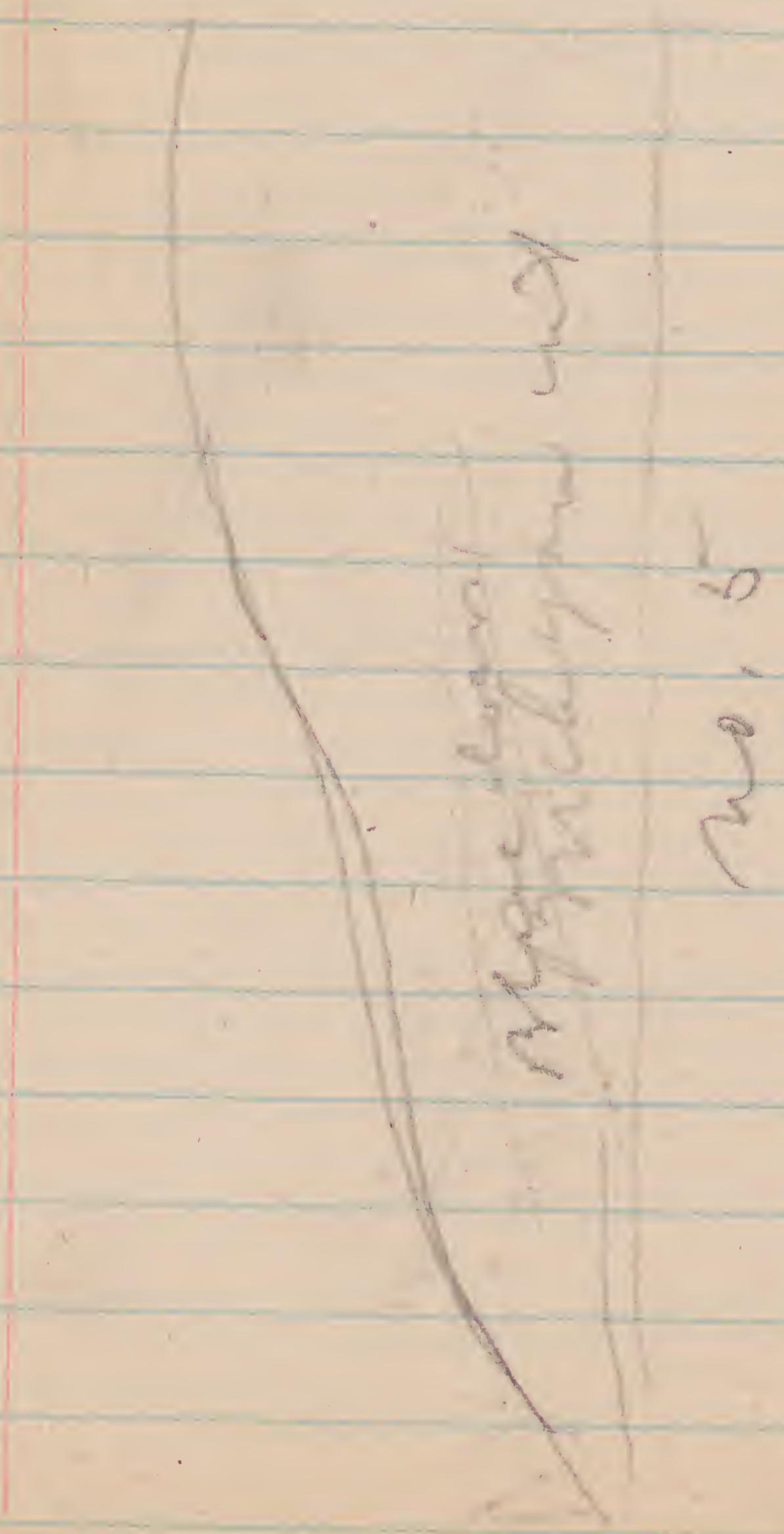
Cut 5 is in brickyard town side shown as follows.

soil 1 ft. { 3-5 ft. 20 ft.
yellow loam
brown loam runs out

water

the Kansan loess was exposed 2-6 ft. Glauconites, iron loam. There is blue clay (or sand) below this & above a foot of this. This is a red gravel below which there is black gumbo.

The Iowa in no 3, & 4,
is more or less carbonated
& contain some lime
nodules.



no. 3

more or less
carbonated

No. 4

No. 6



No. 4

S

Cut 6 - about 4-5
ft of red gravel
below loess - then
black gravel below.

This is a river drift
lower than no 4.

~~cut 6~~
no. 4

On the E + W. side, 1 block
S. (in the block IV) of
the Catholic church
the red loess of
gravel $\frac{1}{3}$ way down
hill. Above it is
loess loess - rocks in

Same for over 30 ft.
Above loess is yellow
loess - there has
been grinding.
A few broken blocks
of sandstone (large) of S. area
were in the blue loess.
Sand then topped
the blue.

Sands

yellow loess

blue loess

Brickstone in gravel

Rocks

Trip to Clarkson, Neb

May 29-1906

Just outside of Omaha
on C. & K. R. a cut shows
soil & old boulders
extending several feet
below surface. Looks
as if buried in loam, but
undoubtedly recently
covered.

Look up for more
covers along RR cuts
especially, as earth
was often thrown up on
sides, and it was settled
into my box.

A little farther on
there appears to be
a soil buried in
some clay.

Just before getting
to Hooper we passed
knolly mounds with
sand. There are on
top of bluffs which
skirt valley.

Hooper
cut 1 is on W. side of
street 1 block S. of
Nickwire hotel & depot (school
& home stand on ground.

Miss 5.
Severin

5. spot
no. 1 no. 1

nickwire
Hotel

RR. n.

No. 1 - cut in yellow
loam, streaked with
bluish bands & just
under them iron bands.
(See sample)

A few nodules &
shells occur,
especially in iron
bands.

Cut is about 12 ft. deep, &
at least 50 ft. above
valley.

1 school II

10 ft
Shale

Roast

Looking W. (up track)

Cut. 2

gills
Fistularia

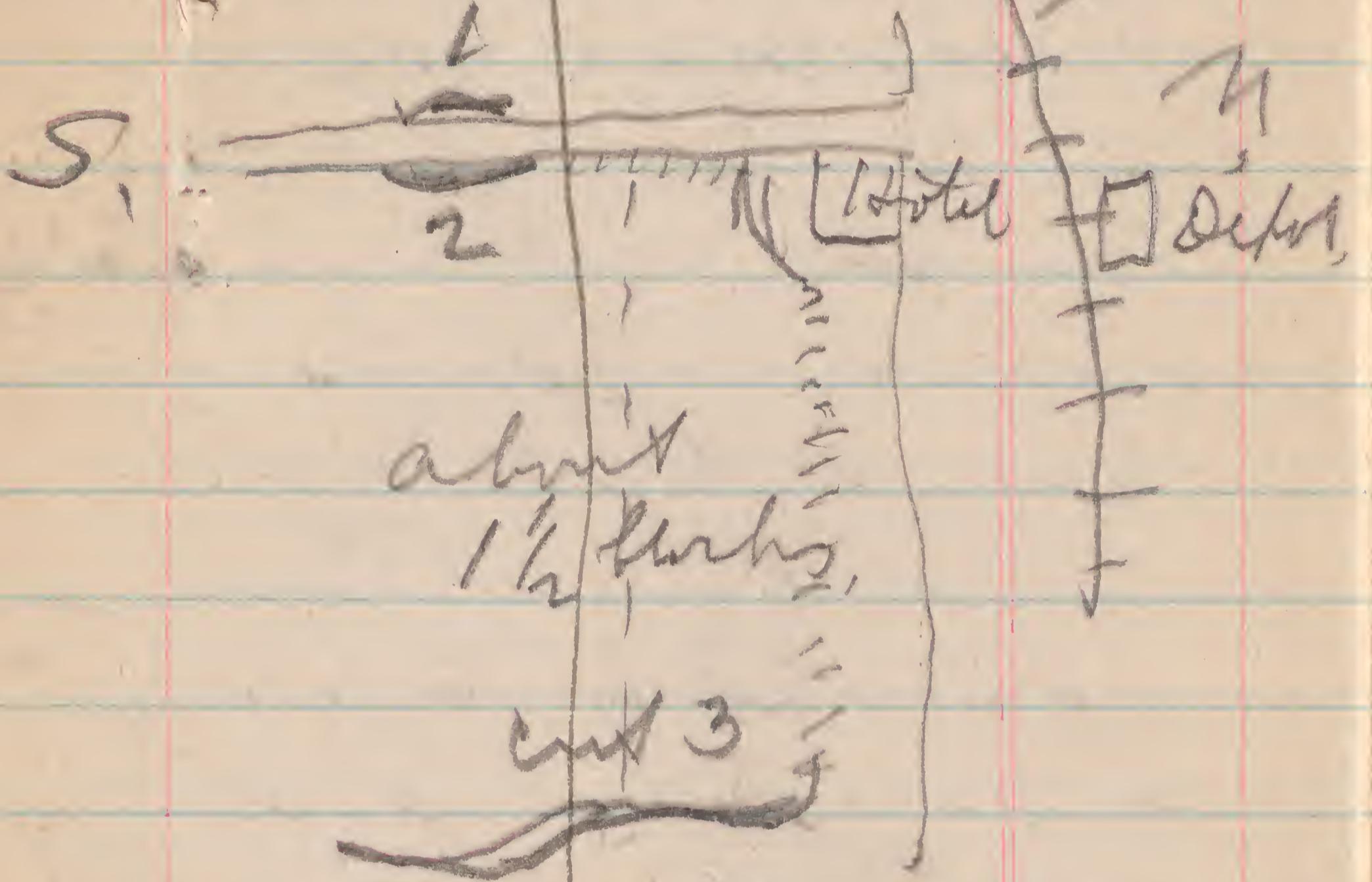
deep gutter
looking E.

The shale seem to be
nearly in level with
shelly part in No. 1.
In both 1 & 2 there
is a little lamination
but none of it, the
bluish & iron colors
appear as if it
might have been
subsequent water
effect.

There are fine black root
marks in sand of this - ver.

The loess above cut 5
1 + 2 in yellow &
without fossils. - 5-6 ft.

Cut 3 is on E. side
same hill as 2,



It is about 18 ft
high, and the lower
half at least shows
alternating layers of
loess & fine sand.

See photo -

The lamination & into-
stratification is irregular.
Saw no shells in lower
part.

The upper part seems
to be more compact
loess, like in cuts
(1 + 2'), and has shells
(a few) & nodules.
The shells seem to
come from the
uppermost 6 or 7 ft.
only and it is
interesting to note
that it is only in
this part that bank
swallows have holes,
the lower part is
too sandy.

all the shells in 1, 2
& 3 are very brittle.

Cut 3 - photo.



grass,
alternating

with
grass

Also more distant
view of same.

Evidently the bluff
facing the Elkhorn
valley along here
were a series of

sand-dunes, now mostly
capped with loess.

Bryer's yard man said
both sides of valley
are same, & that
sand is on front of
bluffs, & some runs
out to the river.
Back on hill a well
shaved gravel at
about 75 ft.

The bands of sand
end in all sorts of
abrupt & irregular
ways, & the whole
deposit is a sanddune
formation.

Photo of cuts 1 & 2 from

60

foot of hill near
Hotel looking S.

n-photo.

Exposure $\frac{1}{4}$, 3 blocks
W. of Hotel S.

a { Sand &
Sand
mixed in
b { loess.

Cuts 4.

a = sand.

b = alternating loess
& sand.

c = loess.

Further back to left
loess comes to surface.

61

To left of base
is cut 4 the loess
is laminated blue
& white iron tubules
& concretions (fim)
It seems to be merely
a streak, & not an
older loess.

Cut 5. is on E. side
of newer brickyard
($\frac{1}{2}$ mile from hotel)
west)

Loess 15-18 ft

2 P. 5
alternating loess
sand light & fine sand
loess dark & sapho 13

62

The fossils come chiefly from layers just above alternating layers

The layer is horizontally streaked with blue & iron.

This fossiliferous layer shows lamination when broken.

Photo 14
foreshort.



See photo
Art 5

Look back 6 leaves
from middle of book (fo)

63

beginning) - for
cut 6, etc.

64
Trip from Missouri
Valley, La. to Fremont Neb.
also to Scribner, Neb.

May, 27- 1905

Between the Missouri
river bridge & Blair

there are several cuts
showing loess.

From Blair to Arlington
the surface
shows characteristic Kansan
topography.

From Arlington to
Fremont is broad flat
plain. River-plain.

65
a big cut between
Hawes & Dodge

There are also cuts
between ^{Hawes} Dodge & Clarkson.

The territory around
Clarkson is all typical
rolling Kansan drift,
with loess on it, & a
black soil covering
this.

66

May 29-1905.

Cut west of
Clarkson, Neb.W. side of cut N. of
Clarkson, Neb.

W.

more or less
brown.

12 ft

track
110 paces

Lava

18 ft

drift

30 paces

18 ft

drift

30 paces

E

20 ft or
more.

67

Lava

12 ft

Lava

35 ft

20 ft

paces

18 paces

paces

The Blue band is brown with
many lime nodules in places.The drift is more or less
rotten, rather brown.Brown band is quite distinct,
from a few inches to a foot.Slight evidence of sticky
gumbo over red band.

Yellow

Red band

green band creek
blue bandThere are a great many small
nodules in the upper or yellow
band, few in the blue band.
The iron band on top of drift

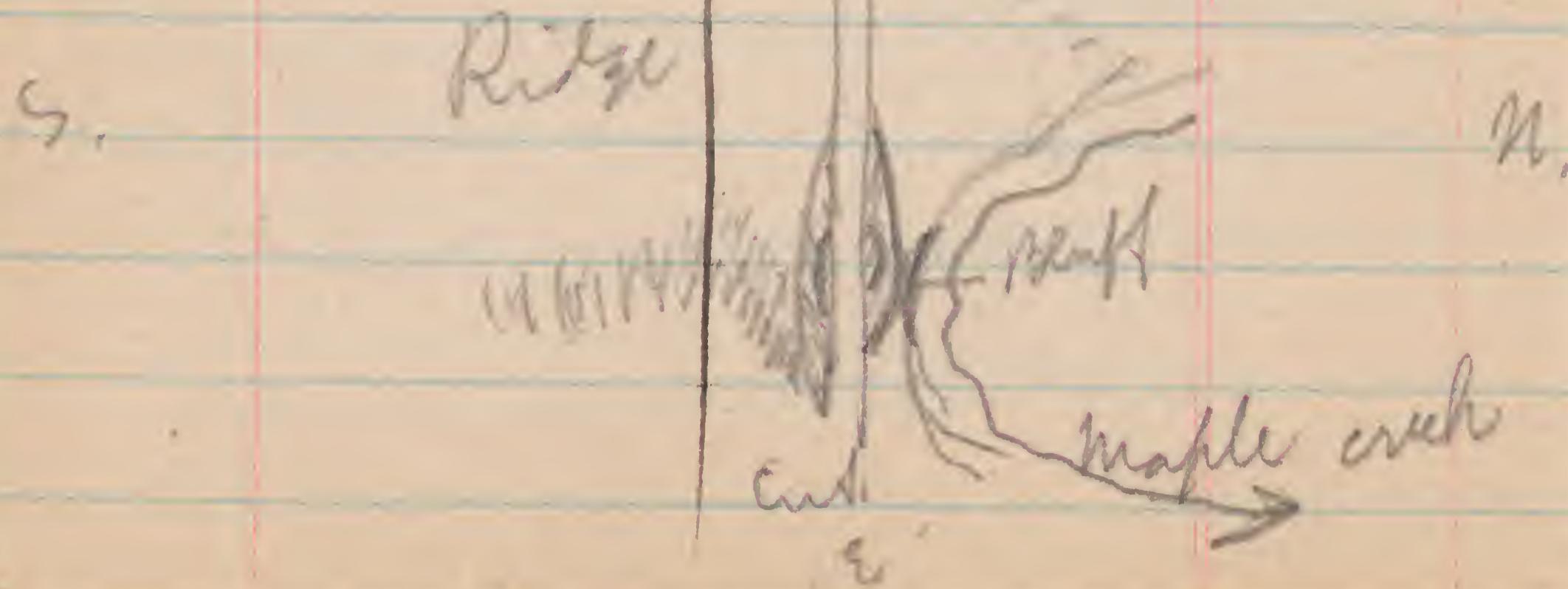
68

shows some white streaks &
some slight evidence of gravel.
The cut is higher on S. side.
There seem to be two
levels, here also.
Both the layers show
lamination when
broken.

Took samples of each
from E. end. N. side
cut W. of Clarkson.

This cut is about $3\frac{1}{2}$ of a
mile W. of Clarkson
W.

→ Clarkson



69

80 ft.
at
20
30
40
50

cut is 30 ft. N. of Clarkson
ridge
water
maple creek
meat

70

Cross $\frac{1}{2}$ miles S.E. of
Clarkson along C & NW
part E. of road.

6

20 ft

65 ft

The upper yellow layer
has black spots &
 streaks, & very many
 rather small nodules
(one in) No fossils
 The lower blue streaks
 of layer not like -

71

S. side

W

yellow layer

3 mm

10 ft.

blue layer

7 ft.

25

15 mm

12 ft

45 mm

(over)

The blue loess is the
usual Post Kansan,
with rather large
iron tubes (one spec.)
& a few nodules.

Fossils are very
abundant throughout
the blue loess.

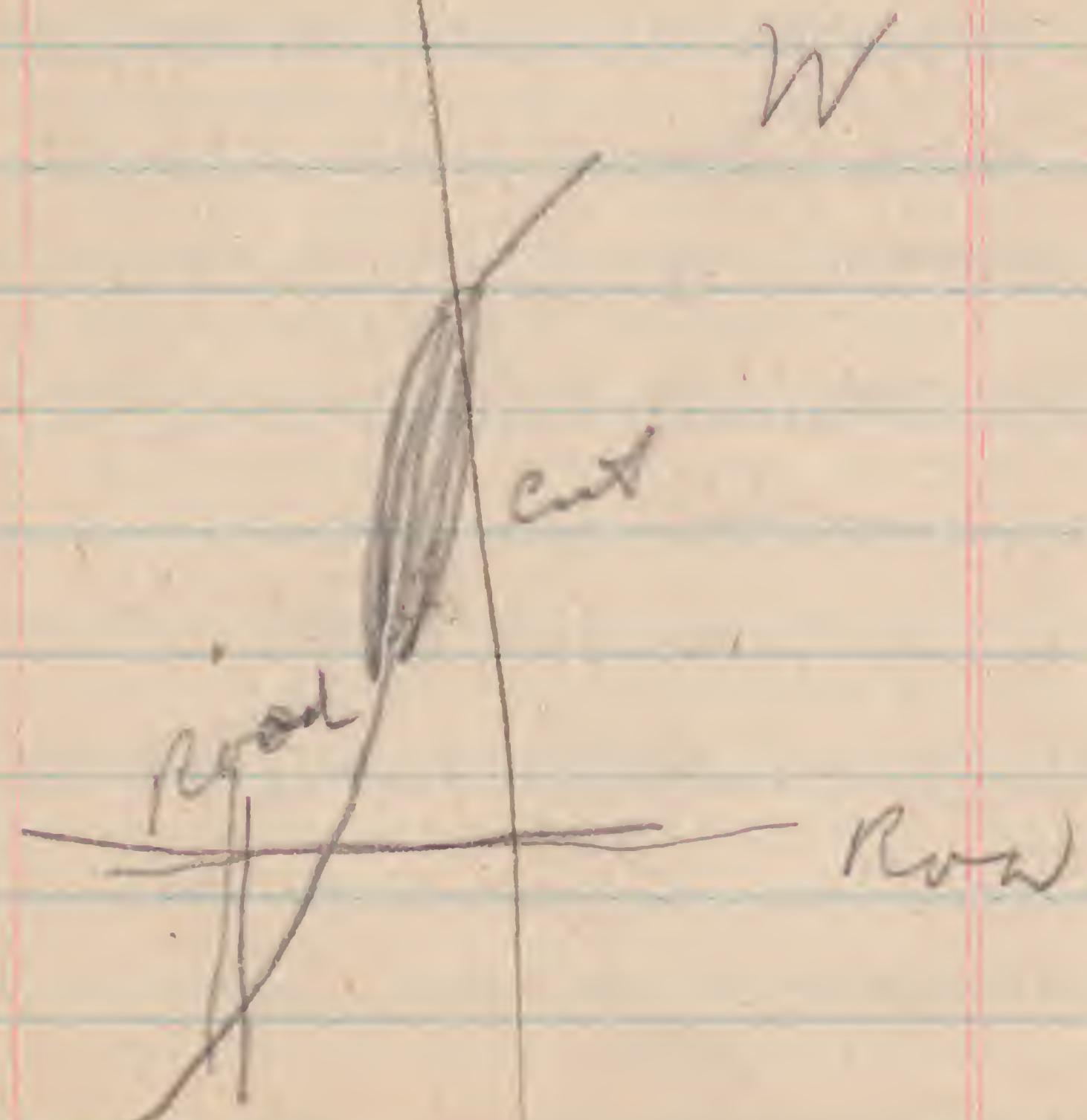
No drift appears
here.

Work sample of blue loess
near its upper part
& yellow loess - at
middle.

The lower part of the
upper loess becomes
more & more blue -
streaked downward, &
in parts is scarcely
different from it.

There are a few small
tubules above the
iron band.

The iron band is a
few inches (3-5) thick
& separates the two
loesses.



There are two smaller cuts, the larger begins at mile post 400 station (the mile post is at its 5 mi) It shows the yellow loess with manganese the smaller one near Elston & shows a brown gravelly - with soft bed darker than loess.

The W. side of the big cut is covered with grass.

^{area}
Nola & Minden - Pottawattamie
Shelby - Shelby co.
Marne, Atlanta, Anoka - Cass co.

At Hooper by brick yard
pits & also cuts in
streets.

A very large cut along
C. & N. W. as it comes
into Omaha. This
looks particularly fine.

Down

Between Nola & Minden
a pretty good cut about
2 mi. from Nola
about $\frac{1}{2}$ mile further
another smaller one.
A little further on
another one - the last
two more or less grass-covered.
Another large one $\frac{1}{2}$ mile
further on. Partly covered.
This is 1 mi. from Minden.

another cut just SW
of Minden. Clear.

Between Minden and
Shelby 1 - ;

2 ^{shallow} cut about 2 or 3
miles from Minden.
Lots of nodules.

A mile farther another
big long one.

Cuts at Shelby, E. of
depot

Another $\frac{1}{4}$ mi on, D.
Very many nodules.

About 2 or 3 miles out
a fair cut,

another mile, fair
cut.

Up to within 3 mi of
Avoca (from Nola) is
in Kaukaa topography,
crite valley, a small cut about a mile
W. of Walnut & a larger
good one about $\frac{1}{2}$ a
mile W. of Walnut.
About one mile E. of Walnut
a large cut - fair -
 $\frac{1}{2}$ mile farther E. a fine
large cut - and a few
rods farther another.

The first good cuts are between
Nola & Minden, 4 mi.
Minden to Shelby 7 mi.
Shelby to Avoca 8 mi.
Avoca to Walnut 6 mi.
Walnut to Marnie - 7 mi.
Marnie to Atlantic - 6 mi.

1 mi. another small one,
not W. of Marnie a big one.
(see fly leaves at back)

78

Luxembourg Dr
May 13-05

Cut 1 At angle of west road (just
 N. of cross-roads) $\frac{3}{4}$ of the way
 up the hill & on, there
 is a bank 10 ft
 high. The lower 2 ft
 is blue loess with
 silt, but I saw no nodules
 or fossils. It is clearly
 post-Kansan, with big
 talus at. The upper
 loess is the usual
 post-Swift. They are
 separated (where they)
 by stratified band 1
 in 4-5 in thick.

The upper loess shows
 no lenses or nodules
 but has black spots
 in it & blue weathering

79

W. Webster

Red loess

Blue loess

The blue loess will
 be transposed to
 slope for several rods
 less than half way up the
 hill. The blue loess then
 goes to a post or less
 & yellow loess is
 about 5-6 ft. drift

shows abundance below
very generally.

Thin, then in exposure
to near top of hill.

On top of the drift (+ less
than $\frac{1}{2}$ way up blue
loess runs out) there
is a Foster lens of
bluish (iron) + brown hardpan
& on this yellow loess.

$\frac{2}{3}$ of the way up, the drift
runs out again, + to
top of hill only
yellow clay shows, but
the cut is not deep.

The blue loess at $\frac{1}{2}$ way
up is 10 ft. + 3 in.
& with lens from 5 or
6 ft.

Cut 2 - along RR - $\frac{1}{2}$
S of New Vienna

drift - 1 ft. at both
typical pattern - 3 ft.
with fine tail &

small nodules
about 8 ft. of yellow
down
cut is long.

2nd cut $\frac{1}{2}$ from edge
Up to 20 ft.
and 25 ft.
and 30 ft.
and 35 ft.
and 40 ft.
and 45 ft.
and 50 ft.
and 55 ft.
and 60 ft.
and 65 ft.
and 70 ft.
and 75 ft.
and 80 ft.
and 85 ft.
and 90 ft.
and 95 ft.
and 100 ft.
and 105 ft.
and 110 ft.
and 115 ft.
and 120 ft.
and 125 ft.
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and 950 ft.
and 955 ft.
and 960 ft.
and 965 ft.
and 970 ft.
and 975 ft.
and 980 ft.
and 985 ft.
and 990 ft.
and 995 ft.
and 1000 ft.

82

W. P. B. D. on coast

spotted gulls (2)
adults & immatures
in flight & in perch

W. P. B. D. on coast

the rubber boat
seems to be

comparatively slow

the wind is

the hills are to come

on the coast

the sky is

the birds are

the Banky swallows

83

W. P. B. D. on coast

at 3 photo

spotted gulls

the wind is

the hills are to come

on the coast

the sky is

the birds are

the Banky swallows

Evidence of glacial
 action identified
 the valley bottom
 made possible by
 sand bars, dry
 drift with layer
 of sand of
 varying
 sizes of rocks
 and the
 surface
 slopes of
 sand-drift formation.
 Took pictures of drifts 1 & 2
 for possible looking
 most out to right
 = 1, 2 feet (2).

n. plots -
 remain 4 of 3 books in
 + 1 left w. of hotel
 a { 1st
 b { same
 c { 2nd
 d { 3rd
 e { with 4th
 a is sand
 b is alternating sand &
 gravel
 c is sand
 d is sand
 e is sand
 The sand is
 deposited on top of
 drifts on the lower
 slopes of the
 hills from which
 concretions. It seems
 to be merely a streak - (skip 4 p)

May 15⁸⁶ 1905

rose from air

Question - where are the books?

Ans. I gave them to a friend.

Q. Who is the friend?

Ans. Dr. Picinsky.

Ans. Mr. Higley, will you bring the books?

Ans. (Higley) - I will not.

87

Wh. Pine	\$3 rings 17 in. from
" "	35 " 15 $\frac{1}{2}$ " "
" "	36 " 18 $\frac{1}{4}$ " "
" "	28. " 13 $\frac{1}{2}$ " "
" "	32 " 12 $\frac{1}{2}$ " "
" "	37 " 17 " "

88

May 12-1905

Dubuque Co. Iowa from central V

16 Pinus strobus
 24 ✓ Quercus alba
 25 ✓ " " ^{lumbar}
 17 ✓ Populus tremuloides
 18 ✓ " grandidentata
 15 ✓ Betula
 1 ✓ Acer saccharum
 28 ✓ Tilia americana
 10 ✓ Fraxinus nigra
 20 ✓ Prunus serotina
 11 ✓ Fraxinus americana? (subsp)
 5 ✓ Betula ovata
 6 ✓ Corylus americana
 7 Gomphocarpus alternifolia
 12 ✓ Prunus cerasus
 8 Cornus
 3 ✓ Betula r. pubescens
 26 Quercus macrocarpa
 29 ✓ Ulmus americana
 9 Erythronium americanum

89

21 Prunus virginiana
 27 Amelanchier
 22 Prunus americana
 2 Acer negundo
 19 Populus deltoides
 4 Betula lutea
 23 ✓ Pyrus roensis
 13 ✓ Juglans nigra
 14 ✓ Juglans virginiana

29

18 Clayton

90

Look back & along
Stem (continues)
at 5 is attached
filament

open for 30 hr

breaks at
an angle at the
end of the
sickle (at 3)
(3)

The joints are stiff

from long

above and from

The plant is slightly
blued from a break
at least 5 (minimum) when
examined when broken.

91

Blister

more

look back 6 leaves from
middle of back (towards front)

Prívil junc do Cid. Rabis
 v 8²⁰ rano, v mediti 30
 dube, 1905 a cedal junc
 do 8.⁴⁷ rano - na
 Tajemnika Hajka.
 Repinic: v 8.³⁵
 junc p. severa.
 Hajek repinic.

John - Kallanin

John

Fremont, Neb. is 1192 ft.
 above sea level.

(Nebraska Atlantic (con))

May 30-1905

a mile E. of Marne
a small cut shows drift
only (?)

a large one $\frac{1}{2}$ mi E.
(at overland bridge)
show loess. Good.
Fine grove of evergreen
just E. of Atlantic, S.
of cross.

2 mi. E. of Atlantic a
large cut, but mostly
overgrown

a smaller cut partly
overgrown at overland bridge

1 mi. E

to Arctic almost nothing

dark.

545
He saves his country but
who lives poor life and
death waiters dead.

To Clarkson, Wis. Aug 21. 1906

R.R. fare to Omaha 8.13

Omaha to Scriven 1.97

Lunch Omaha .25

Hotel - Horner 1.00

Horner + Clarkson 1.05
Scribner + Clarkson

To Fremont 1.55
Lunch 1.10

To Omaha 1.10

To Cedar Rapids 8.23
meal .35

To the City .65

\$ 24.08

V Clarkson
p. Longin Zolda
p. Mundil
p. - Mi syna
p. - v High school
Sectem zem u s Rev
Břeňem z Hobson, Nebr
je bratranci p. Mundil
mn. Noh - Hotel

V Howell

p. Zolda

p. Rud. Balaban

p. Fr. Hanbechij bratranci
z m. H. z Cleveland

82 ft. by 30 m.



1630

Cory - Humboldt
May - Hawarden
Francis - Williamsburg
apply at Denver
for draft.

sec. 2 - T. 138 N. R. 26 W. 5th
Crown King Co
D. M. Calum
Apr. 1915.

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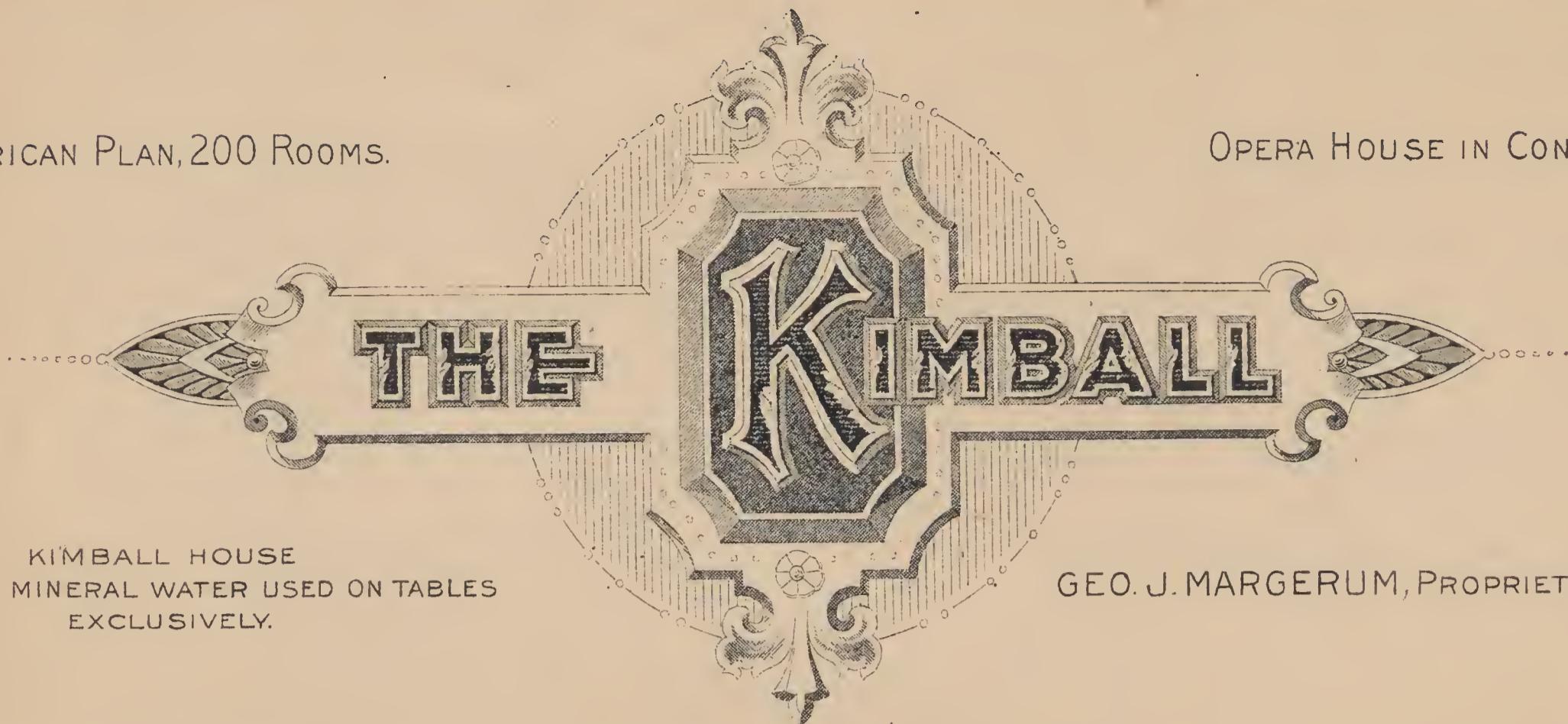
Oct. 13

Visited the lower exposure where
I-90 N. Moline, Ill. hits the
bluff. Found most of the hill made
up of clayey gravel, not any large
boulders, above this was a red
loess-like layer, varying in thickness but
probably nowhere over 3 ft. Then a
layer of fossiliferous loess, containing
numerous tubular. This was probably
6 ft. or thereabouts.
Then a layer of coarser & very fine
loess with practically no fossils, no
less & then a fragment. Then on
top of all a layer of red loess
like clay, a foot or two (at three)
in thickness. Saved samples.
Look for *Carydium* among the shells.
They break very easily.
Neotoma was common fossil.
The fossils were not uniformly
distributed, but were collected in several

AMERICAN PLAN, 200 Rooms.

TRI-CITY LITHO. CO. DAVENPORT, IA.

OPERA HOUSE IN CONNECTION.



DAVENPORT, IOWA,

190

holes or pockets?

The forms are mostly in lower part, as if after awhile the clay hills had accumulated & terminated with a vegetation of the ^{scrub} forest on top. The uppermost layer is the same weathered looking stuff that caps the Council Bluffs, only it may be redder. But it is that "crumbly" stuff.